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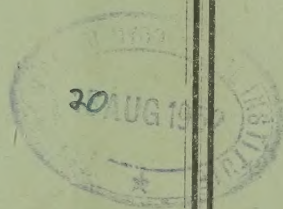
ANNUAL REPORT

OF THE

Department of Agriculture

FOR THE YEAR

1949.



Printed at the Voice Printery,
Bridge Street,
Castries, St. Lucia,
B.W.I.

REPORT ON THE WORK OF THE DEPARTMENT OF AGRICULTURE

FOR THE YEAR

1949

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MEMORANDUM TO THE AGRICULTURAL POLICY OF GOVERNMENT

III. The Government has, however, considerably increased the expenditure on the movement of crop production for export to the world's markets.

(1) To render the production of export crops more profitable, it is possible to be practicable in the production of export crops to the world's markets.

ANNUAL REPORT

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PREFACE

Summary of Progress made in implementing the Agricultural Policy of Government.

I. *Conservation of Natural Resources.*

(i) To protect, manage, control the use of and improve all forest areas prescribed in accordance with the advice of the various Government Departments.

During the period under review, the Forest Service was organised, provision for which was made under Scheme D.1042 financed by Development and Welfare Funds. Thus for the first time it was possible to enforce the Forest, Soil and Water Conservation Ordinance No. 14 of 1946. At the same time the enforcement of these regulations was carried out with due regard for the licence allowed squatters and woodcutters in the past.

It was found necessary to submit a scheme for the control of squatting, as it was realised that without this control it would be impossible to ensure effective protection of the Forest.

(ii) To encourage the proper use of land by the adoption and practice of systems of agriculture which will conserve the soil and improve its fertility by

(a) advising as to the allocation of production in accordance with the findings of a soil survey ;

(b) the investigation and demonstration of suitable systems of agriculture in the varying ecological systems of the island.

(a) Unfortunately no further development can be reported. It is understood that a scheme for the Soil Survey including the Windward Islands has been approved. This survey will be under the direction of the Professor of Soil Science at the Imperial College of Tropical Agriculture. Preliminary work in accordance with (b) has been carried out on the Agricultural Stations.

II. *Security of Land Tenure.*

(i) To provide the means of regularising systems of land tenure for the protection of both the landlord and the tenant, and the conservation of the soil by the enactment of appropriate legislation. It has not yet been possible to take any action in this connection.

IMPLEMENTING THE AGRICULTURAL POLICY OF GOVERNMENT.

III. *The maintenance and wherever economically practicable the expansion and improvement of crop production for export to the world's markets.*

(i) To render advice, guidance, and such other forms of assistance as may be practicable in the production of staple commodities for export to the world's markets by

- (a) scientific investigation ;
- (b) distribution (within practical limits) of selected plant material ;
- (c) the demonstration of suitable cropping methods ;
- (d) the provision of technical advice in methods of processing ;
- (e) the operation of a marketing organisation when this is necessary in the general interests of the community.

Investigational work in the course of the year included variety trials with sugar cane and tomatoes and manurial trials on vanillas and bananas. Selected and improved plant material in the form of budded citrus, grafted mangoes and pears, nutmegs, dwarf coconuts and other economic plants were available for distribution at Agricultural Stations and the Botanic Gardens.

The Government Marketing Depot was in operation during the year.

IV. *The improvement of small scale (or peasant) agriculture.*

(i) To encourage the abandonment of the undesirable and wasteful systems of shifting cultivation commonly practised by small cultivators.

(ii) To encourage and to assist small cultivators to establish and maintain themselves under a permanent system of agriculture by

- (a) the demonstration of permanent systems of small scale agriculture ;
- (b) facilitating whenever possible the provision of land to small cultivators for the practice of approved systems of agriculture ;
- (c) affording assistance whenever possible in the construction of houses and roads, and the provision of water supply and other social amenities.

These objectives can best be achieved by means of a land settlement scheme, and so far it has not been possible to make provision for such a scheme.

V. *Stability of farming and improvement of food supply.*

(i) To encourage the practice of more stable systems of agriculture by the operation of Agricultural Stations in various parts of the island for the purpose of investigation and demonstrating methods of crop diversification, systems of crop rotation in short term cropping, mixed farming, the care and management of livestock, the preparation of pen manure and the use of chemical manures, the preparation and grading of produce for market.

The five Agricultural Stations were maintained during the year. Very little further development was possible owing to shortage of staff. Details of the services are recorded under the relevant sections.

(ii) To urge the increased home production of the basic food requirements of the people by

- (a) the distribution or suitable varieties of the more important food crops :

IMPLEMENTING THE AGRICULTURAL POLICY OF GOVERNMENT.

- (b) the demonstration of methods of producing food crops suitable for the preparation of a balanced diet;
- (c) encouraging the rearing of livestock and the greater consumption of animal products ;
- (d) the demonstration of clean milk production ;
- (e) assisting in the organisation of marketing and storage of food crops ;
- (f) the introduction of protective tariffs for selected food crops or animal products whenever such action would be in the general interest of the community.

Planting material of food crops including European vegetables were available at Agricultural Stations. Stud animals were maintained at stations to improve and increase local livestock and thus increase animal food available for consumption. It has not been possible to implement (d) and (e) whilst there was no need for (f)

VI. Efficiency in the operation of production, processing and distribution of agricultural products.

(i) To encourage the practice of efficient methods of production, processing and distribution of agricultural products by

- (a) the teaching of crop and animal husbandry in the schools ;
- (b) the provision of facilities for training agricultural instructors, overseers and a nucleus of small farmers ;
- (c) the demonstration of approved methods of agricultural production and livestock management ;
- (d) the provision of facilities for obtaining agricultural credit ;
- (e) the provision of technical advice in methods of processing ;
- (f) the encouragement of the formation and operation of co-operative organisations of producers ;
- (g) the adoption of measures to reduce the common practice of praedial larceny, and ultimately to eradicate the evil.

No action has been possible with regard to (a), (d), (e), (f) and (g).

Early and energetic action is clearly called for with regard to (b). Already the demand for trained men far exceeds the supply and the improvement of our agricultural standards depends upon a nucleus of trained personnel.

PART 1.

AGRICULTURE IN THE COLONY.

WEATHER CONDITIONS

General Climatic Conditions—Rainfall data collected from 20 different stations show a mean of 113.91" as compared with 136.71" for the preceding year. The meteorological data for the year is summarised in Appendix VI. and observations are recorded below. Heavy winds at the beginning of August did some damage to banana cultivations. are

(a) **Rainfall.**—Returns for 20 stations and monthly rainfall for the Botanic Gardens from 1930—1949 are shown in Appendix V. These figures indicate

WEATHER CONDITIONS.

that precipitation for December was about average. Falls for January, February, March, April and May were below average and above average falls were recorded in June, July, August, September, October and November.

Annual precipitation was 79.95" as compared with 79.46" last year and a twenty year average of 78.42".

(b) **Barometer.**—The highest reading recorded was 30.09" on 7th April and 24th June, and the lowest was 29.73" on 19th December.

(c) **Temperature.**—The highest maximum temperature recorded was 91° F on 27th May and on 18th and 19th August.

The lowest maximum temperature was 65° F on 10th and 17th January.

The greatest rainfall in 24 hours was 3.32" on 22nd July.

PRODUCTION AND EXPORTS

Export statistics for the past six years are shown in the following table :—

AGRICULTURAL EXPORTS — DOMINICA, 1944-1946.

		1944		1945		1946	
		Quantity.	F.O.B. Value \$	Quantity.	F.O.B. Value \$	Quantity.	F.O.B. Value \$
Lime Products :							
Concentrated Juice,	galls.	2,673	1,051.20	50	19.20	182	62.40
Raw Juice	galls.	189,415	92,678.40	317,318	160,963.20	283,113	100,910.40
Lime Juice Cordial	galls.	—	—	—	—	—	—
Distilled Oil,	lbs.	40,706	275,452.80	19,745	159,921.60	27,934	163,715.20
Ecuelled Oil,	lbs.	1,739	20,467.20	3,747	49,526.40	2,944	29,092.80
Oils in Solution,	lbs.	—	—	1,582	12,297.60	195	—
Green Limes,	brls.	499	2,515.20	727	3,960.00	1,620	8,500.80
Pickled Limes,	brls.	—	—	—	—	—	—
			392,164.80		386,688.00		292,281.60
Other Fruits and Allied Products :							
Oranges,	C/crates	9,912	34,958.40	9,326	24,763.20	9,521	24,172.80
Orange Oil,	lbs.	883	2,980.80	720	3,408.00	1,424	6,494.40
Grapefruit,	C/crates	7,572	16,804.80	7,264	19,641.60	5,219	13,051.20
Grapefruit Juice,	galls.	—	—	—	—	512	417.60
Grapefruit Oil,	lbs.	—	—	—	—	—	—
Bananas,	bunches	4,047	1,891.20	4,132	1,651.20	3,602	1,113.60
Mangoes,	C/crates	3,958	5,832.00	3,294	3,960.00	5,940	5,347.20
Avocado Pears,	T/crates	715	571.20	3,360	2,620.80	3,199	1,612.80
Miscellaneous	val.	—	13,545.60	—	22,833.60	—	31,977.60
			76,584.00		78,878.40		84,187.20
Cocoa Products :							
Cocoa, Raw	lbs.	332,520	35,174.40	296,788	36,446.40	200,243	18,610.00
Cocoa, Prepared	lbs.	256	72.00	64	9.60	20	4.80
			35,246.40		36,456.00		18,614.80
Coconut Products :							
Copra,	lbs.	509,400	37,017.60	560,765	43,656.00	670,663	57,124.80
Coconuts,	No.	895,031	26,851.20	1,476,496	56,793.60	387,069	10,828.80
			63,868.80		100,449.60		67,953.60
Sugar Products :							
Rum,	galls.	12,456	10,118.40	8,322	8,371.20	4,866	5,222.40
Bay Products :							
Bay Oil,	lbs.	24,275	30,072.00	31,877	28,521.60	24,199	21,753.60
Bay Rum,	galls.	287	350.40	195	288.00	170	254.40
			30,422.40		28,809.60		22,008.00
Spices :							
Vanilla,	lbs.	50,833	328,315.20	64,984	441,974.40	47,819	336,624.00
Nutmegs,	lbs.	—	—	—	—	—	—
Ginger,	lbs.	3,393	369.60	2,242	192.00	2,833	144.00
Cinnamon,	lbs.	—	—	—	—	—	—
			328,684.80		442,166.40		336,768.00
Other Products :							
Coffee,	lbs.	2,459	388.80	658	105.60	142	9.60
Vegetables	lbs.	—	—	—	—	—	—
Farine	lbs.	—	—	—	—	—	—
Hides & Skins	lbs.	—	—	—	—	—	—
Leather, Unmanufac/d	lbs.	—	—	—	—	—	—
Turtle Shells	lbs.	—	—	—	—	—	—
Tobacco, Cigars, and							
Cigarettes	lbs.	5,028	5,395.20	8,111	10,406.40	787	1,996.80
Miscellaneous,	val.	—	25,675.20	—	14,414.40	—	8,764.80
			31,459.20		24,926.40		10,771.20
Forest Products :							
Hardwood,	ft.	59,722	2,678.40	12,633	542.40	18,976	816.00
Firewood,	cords	2,064	8,313.60	2,242	10,761.60	2,277	10,608.00
Canoe Shells	No.	—	—	—	—	—	—
Shingles	No.	—	—	—	—	—	—
Charcoal	lbs.	—	—	—	—	—	—
Locally made Boats,	No.	—	—	1	14.40	—	—
Baskets,	No.	—	—	—	—	—	—
Other Forest Products,	val.	—	76.80	—	4.80	—	—
			11,068.80		11,323.20		11,424.00
Value of Local Exports			979,617.60		1,118,068.80		849,230.80
Total Re-exports			29,985.60		39,340.80		71,880.00
Value of Total Exports			1,009,603.20		1,157,409.60		921,110.80

AGRICULTURAL EXPORTS — DOMINICA, 1947-1949.

		1947		1948		1949	
		Quantity.	F.O.B. Value \$	Quantity.	F.O.B. Value \$	Quantity.	F.O.B. Value \$
Lime Products :							
Concentrated Juice	galls.	3,486	3,134.40	—	—	46	40.00
Raw Juice,	galls.	344,054	174,432.00	589,672	365,788.07	385,952	235,757.00
Lime Juice Cordial	galls.	—	—	—	—	66,149	43,593.00
Distilled Oil,	lbs.	26,888	144,326.40	23,911	103,809.51	18,005	94,913.00
Ecuelled Oil,	lbs.	1,503	14,472.00	985	7,984.12	554	4,838.00
Oils in Solution,	lbs.	4,146	—	14,905	—	8,631	—
Green Limes,	brls.	1,765	10,046.40	3,207	14,094.43	3,341	17,402.00
Pickled Limes,	brls.	—	—	—	—	73	1,123.00
Other Fruits and Allied Products :			346,411.20		491,666.13		397,671.00
Oranges,	C/crates	8,845	38,164.80	13,156	58,605.03	16,238	52,494.00
Orange Oil,	lbs.	651	1,084.80	1,412	4,157.78	761	1,812.00
Grapefruit,	C/crates	6,767	21,715.20	7,164	25,068.98	17,185	38,275.00
Grapefruit Juice,	galls.	11,730	7,742.40	26,338	80,643.36	184,147	25,421.00
Grapefruit Oil,	lbs.	11,085	3,744.00	300	608.70	563	1,829.00
Bananas,	bunches	7,263	7,344.00	14,731	14,142.00	120,676	141,474.00
Mangoes,	C/crates	6,609	8,064.00	12,063	38,634.69	11,608	27,211.00
Avocado Pears,	T/crates	13,965	7,560.00	20,919	42,681.25	19,873	18,983.00
Miscellaneous	val.	—	6,412.80	—	125,538.57	—	88,205.00
			101,832.00		390,080.36		395,704.00
Cocoa Products :							
Cocoa, Raw	lbs.	469,858	158,443.20	420,806	160,264.59	330,204	86,596.00
Cocoa, Prepared	lbs.	84	14.40	11	2.64	59	14.00
			158,457.60		160,267.23		86,610.00
Coconut Products :							
Copra	lbs.	610,895	56,299.20	671,852	61,401.53	1,183,426	111,391.00
Coconuts,	No.	510,627	15,254.40	408,693	13,295.56	185,301	6,807.00
			71,553.60		74,697.09		118,198.00
Sugar Products :							
Rum,	galls.	8,378	8,486.40	10,227	15,975.23	6,815	7,474.00
Bay Products :							
Bay Oil,	lbs.	24,220	23,980.80	34,674	33,046.08	36,583	33,051.90
Bay Rum,	galls.	201	403.20	161	344.14	58	85.00
			24,384.00		33,390.22		33,136.00
Spices :							
Vanilla,	lbs.	15,644	103,598.40	51,909	154,164.44	68,823	153,987.00
Nutmegs,	lbs.	—	—	—	2.00	82	2.00
Ginger,	lbs.	5,881	206.40	5,102	145.07	2,226	175.00
Cinnamon,	lbs.	—	—	1,617	391.47	—	—
			103,804.80		154,702.98		154,174.00
Other Products :							
Coffee,	lbs.	22	4.80	1,868	298.86	105	28.00
Vegetables	lbs.	—	—	—	4,259.21	—	8,931.00
Farine	lbs.	—	—	10,513	1,650.44	24,579	5,703.00
Hides & Skins	lbs.	—	—	—	—	266	16.00
Leather Unmanufac/d	lbs.	—	—	555	265.54	76	40.00
Turtle Shells	—	—	—	—	—	—	—
Tobacco, Cigars and	—	—	—	—	—	—	—
Cigarettes,	lbs.	1,940	7,872.00	4,134	16,270.40	1,801	7,714.00
Miscellaneous,	val.	—	35,491.20	—	12,687.71	—	61,680.00
			43,368.00		35,432.16		84,112.00
Forest Products :							
Hardwood,	ft.	10,488	417.60	9,082	1,656.00	3,854	542.00
Firewood,	cords	1,495	7,267.20	1,492	7,411.14	609	5,311.00
Canoe Shells	No.	—	—	—	—	—	—
Shingles	No.	—	—	—	—	—	—
Charcoal	lbs.	—	—	1,000	23.24	208	6.00
Locally made Boats,	No.	—	—	—	—	—	—
Baskets,	No.	—	—	—	200.64	—	172.00
Other Forest Products,	val.	—	4.80	—	200.00	—	9,126.00
			7,689.60		9,491.02		15,157.00
Value of Local Exports ..			865,987.20		1,365,702.42		1,292,236.00
Total Re-exports ..			96,249.60		181,286.69		129,867.00
Value of Total Exports ..			962,236.80		1,546,989.11		1,422,103.00

PRODUCTION AND EXPORT.

General Observations.—The production of the island, has, for the past thirty years been far below its potential output. This situation was in the main caused by

- (a) uncertainty of markets ;
- (b) lack of capital ;
- (c) an inadequate road system ;
- (d) expensive and irregular shipping facilities in more recent times and
- (e) destructive hurricanes of 1915, 1916, 1924, 1928, and 1930.

During the year under review, the outlook has undergone considerable change. In the first place an extensive road programme has been approved involving an expenditure of \$1,680,000.00 over the next 10 years. The cost of this project will be met by a grant from Development and Welfare funds. In addition, considerable new capital has been attracted to the island, the more important investors being

- (a) the Colonial Development Corporation who plan to operate a hydro-electric plant, a citrus packing shed, and to establish oranges and grapefruit on a large scale ;
- (b) Antilles Products Ltd. who have contracted with the Dominica Banana Association to purchase all Lacatan Bananas grown in the island for 15 years and
- (c) Messrs. Jahn Strades of London who plan to construct a factory for the processing of citrus fruit with special reference to candied peel.

There is every reason to expect considerable development of the island's resources resulting in greatly increased production during the next decade.

The monetary value of exports for the year excluding re-exports totalled \$1,292,236.00, showing a drop of \$73,466.00 or approximately 5% on last year's figures. The most striking feature of the export picture is the sharp rise in volume and value of bananas, which was almost 9 times the quantity and 10 times the earnings of the previous year. This significant increase was brought about by shipments under the Fifteen Year Contract with Antilles Products Ltd. which commenced at the end of June. As a result of extensive new plantings, the industry will expand rapidly and is expected in the near future to replace Lime products as the main export of the island.

Decreases were recorded for all other commodities with the exception of Coconut products which showed a substantial increase in volume and total value of Copra exported.

Observations relating to the following industries are recorded as follows :—

Limes.—Production of limes over the past six years calculated as barrels of fruit is set out in the following table :—

PRODUCTION AND EXPORT.

<i>Product.</i>	<i>Barrels of Fruit.</i>					
	1944.	1945.	1946.	1947.	1948.	1949.
Distilled Lime Oil ..	116,701	47,994	74,970	76,140	64,901	48,871
Ecuelled Oil ..	13,912	29,976	23,552	12,024	9,357	5,263
Oils in Solution	—	5,273	682	14,511	40,456	23,427
Green Limes ..	499	727	1,771	1,765	3,207	3,343
Pickled Limes ..	—	—	—	—	—	73
	131,112	83,970	100,975	104,440	117,921	80,977

The figures for any one year do not necessarily represent annual production as there may be a carry over of products at the end of a calendar year. However, the six year average of 103,232 barrels serves as a reliable guide to present production. Last year's production of fruit exceeds that of this year by 23,716 barrels.

Countries of Destination.—The destination of lime products is set out in the following table :—

<i>Product.</i>	<i>Country of Destination.</i>					
	United Kingdom.	Canada.	British Possessions	United States	Foreign Ctries	TOTAL
Concentrated Lime Juice galls.	—	—	46	—	—	46
Raw Juice galls.	264,890	18,930	85,108	16,024	—	384,952
Distilled Oil lbs.	1,850	2,096	8,300	5,525	224	17,995
Ecuelled Oil lbs.	554	—	—	—	—	554
Oils in Solution lbs.	8,505	100	—	26	—	8,631
Green Limes brls.	75	2,106	746	—	16	2,943

Vanillas.—This year's export of cured beans amounted to 68,823lbs. valued at \$153,987.00 as compared with last year's output of 51,909 lbs. valued at \$154,164.00. Though the volume of exports increased by 16,916 lbs. the latter realised only \$187.00 more than the previous year, indicating a reduction of 73¢ per lb.

The bulk of the crop was destined for the United States of America, but small quantities were imported by the United Kingdom, Canada and other British West Indian Islands.

Coconut Products.—More copra was manufactured and less nuts exported than during the previous year as reflected in the export figures which show a decrease of 223,390 nuts and an increase of 511,574 lbs. of copra shipped. The corresponding value showed an overall increase of \$46,989.00 over figures of 1948. The total value of coconut products was \$118,198.00 as contrasted with \$74,697.00 in the previous year. All copra was destined for Barbados under the five year Fats and Oils Agreement of 1947.

PESTS AND DISEASES

The price received for copra during the year was \$204.20 per ton.

Cocoa.—The quantity of raw cocoa exported this year was 330,204 lbs. valued at \$86,596.00. This shows a decrease of 90,602 lbs. valued at \$73,668.59 over last year when 420,806 lbs. of raw beans were sold for \$160,264.59.

Bananas.—The first fruits of the 15 Year Contract were reflected in the sharp rise in the volume and value of banana exports. The number of bunches exported was 120,676 valued at \$141,475.00, contrasted with 14,731 bunches valued at \$14,142.00 in the previous year. With sound management and improved communication the banana industry should attain a volume of some two million stems per annum valued at three million dollars within the next seven years. This will give some indication of its potential importance to the island.

Rum.—The eight distilleries in operation during the year produced a total of 115,918 gallons, a decrease of some 9,000 gallons in the previous year. The following table sets out the production for the past six years:—

1944	..	..	..	84,852 gallons
1945	..	..	..	91,898 "
1946	..	..	..	98,668 "
1947	..	..	..	97,706 "
1948	..	..	..	135,000 "
1949	..	..	..	115,918 "

The Leeward Islands were the main importers of the island's rum, having taken 6,789 of a total of 6,815 gallons exported for the year. Value of this year's export was \$7,473.00 as compared with \$15,975.23 for 10,227 gallons in the previous year.

Forest Products.—There was a slight decrease in the value of forest products exported during the year, this was valued at \$8,193.00 as compared to \$9,491.00 for the previous year. The demand for local lumber especially for building purposes, was very active and was many times the value of the exports. The product turned out by the processing plant established in 1947 is much superior to the hand sawn product, and consequently the plant worked to full capacity during the period under review.

PESTS AND DISEASES.

General.—There was no abnormal incidence of pests or disease during the year.

Citrus.—*Limes.* The incidence of withertip (*Glæosporium limetticolum*) was about the same as last year which was more marked than usual.

Oranges. The fruit piercing moths caused damage to fruits especially those harvested late in the year.

Vanilla.—The overall incidence of Root rot (*Fusarium batatis* var. *Vanillæ*) was not unduly high. This seems to confirm the observations made last year that its lowered incidence may be correlated with the reduction of excessive cropping of the vines.

Bananas.—Panama disease (*Fusarium Cubense*) was prevalent on the Gros Michel, but as there are few pure stands of this variety which has been replaced by Lacatan as the commercial variety, its economic importance has decreased.

Sigatoka Disease (*Cercospora Musæ*). The incidence of this disease was on the whole not severe. There were signs however, which clearly indicated that under certain conditions severe outbreaks were to be expected. It will be necessary to take active steps to control this disease which can cause serious losses. Control of the disease is effected by spraying with Bordeaux Mixture. The Banana Association is

ADMINISTRATION.

responsible for the spraying campaign, the cost of which will be defrayed by the collection of cess of $\frac{1}{2}$ cent per pound on all bananas exported.

Cocoa.—Black Pod caused by the fungus (*Phytophthora palmivora*) caused reduced crops in the wetter areas.

Tomatoes.—The wilt disease caused serious losses on the American varieties, Ponderosa and Marglobe. The Canary Island varieties proved very resistant, and losses were on a much smaller scale.

PART II.

WORK OF THE DEPARTMENT

ADMINISTRATION.

The organisation of the Department was widened in scope to include the Forest Service, and the Superintendent of Agriculture is also the Chief Forest Officer. Details of the Forest Service are given in Appendix I. The Department was again faced by serious staffing difficulties; the post of Agricultural Assistant vacant since 1947 remained unfilled. In this connection it must be recorded that in a period of seven years since the post was created in 1943, the services of an Officer have only been available for approximately $3\frac{1}{2}$ years, i.e. from May 1944 to September 1947. The Senior Agricultural Instructor carried out the work of the Agricultural Assistant, and in addition was in charge of the Produce Inspection. An Assistant Superintendent of Agriculture was appointed during the year which eased the situation to some extent, but the fact remains that the shortage of Senior staff has seriously hampered the development and routine work of the Department. In addition, the department continued to be burdened with the administration of Goodwill and Melville Hall Estates without adequate extra staff.

PUBLIC GROUNDS.

Routine work of maintenance was carried out on the grounds of the Public Library, Memorial Park, Morne Bruce, the Military Cemetery and Government Office Grounds. It is of interest to record that the Royal Palm (*Oreodora Regia*) replacements in the Military Cemetery are making satisfactory progress. The original planting was in the form of a crucifix, and it is now once more taking on its original outline. Three specimens of the Pink Cassia (*C. Nodosa*) were planted in the Memorial Park.

BOTANIC GARDENS.

Ornamental Section.—The general attractiveness of the Gardens was maintained. New introductions included water lilies, both day and night blooming varieties, *Cupressus Sempervirens* (var. *pyramidalis*), Rex Jasmine, *Ficus Repens* and White Bougainvillæ. Deserving of special mention was the woody vine *Congea Tomentosa* which has completely covered an old bamboo clump around which it was planted five years ago. Its large loose sprays of delicate pink flowers made a fine showing. Flowering trees which attracted particular attention were *Tabebuia Pentaphylla* the 'Pink Pouis' and *Tecoma Spectabilis*, the 'Yellow Pouis' with its showy mass of bright yellow flowers.

CROP OBSERVATION AND MULTIPLICATION PLOTS AT AGRICULTURAL STATIONS AND BOTANIC GARDENS

(i) **Yams.**—The following varieties were cultivated to provide planting materials for distribution. Barbados Lisbon, Moon, Moonshine, Lisbon 638, Statia Smooth, Statia Rough, Silk Yam, Special Red Lisbon, Oriental and Bottle Neck Lisbon.

At the Grand Bay Agricultural Station the above mixed varieties yielded 10.125

LIME EXPERIMENT STATION.

lbs. yams per acre valued at \$303.75. Corn interplanted with the yam yielded 22 barrels per acre, this was valued at \$319.68, bringing the total gross returns per acre to \$623.43 and a nett return of \$486.04 per acre.

(ii) **Grasses.**—The following fodder grasses were cultivated :—

<i>Station.</i>	<i>Type of Grass.</i>
Botanic Gardens	Elephant Grass (<i>Pennisetum purpureum.</i>) Guatemala Grass (<i>Tripsacum laxum.</i>) Colonial Grass (<i>Panicum spectabile.</i>)
La Plaine	Sour Grass (<i>Andropogon pertusus.</i>) Elephant Grass. Colonial Grass.
Londonderry	Elephant Grass. Guatemala Grass
Portsmouth	Elephant Grass.
Colihaut	Elephant Grass. Sour Grass.

(iii) **Dwarf Coconuts.**—The three plots of dwarf coconuts at the Grand Bay, Londonderry and Portsmouth Stations continued to make satisfactory growth during the year. At Portsmouth 87 dry nuts were collected, and there is a heavy set of fruit on all plots which should yield interesting results next year. The condition of all plants is remarkably healthy and free of pests and disease.

(iv) **Cocoa.**—The plot of cocoa cuttings planted in 1947 and 1948 continue to progress most satisfactorily. No new clones were planted during the year. Three plants of D.S. 9 produced 27 ripe pods during the year.

(v) **Bananas.**—Plots were established at Portsmouth, Londonderry and Grand Bay Stations.

(vi) **European Vegetables.**—Large quantities of different varieties of vegetable seeds were distributed from the Botanic Gardens and other Agricultural Stations. There was a special demand for seeds of Lettuce, Cucumber, Beans, Carrots and Tomatoes. A wide variety of these vegetables were grown in demonstration plots at the Botanic Gardens. It is worthy of mention that an 1/8 acre plot at the Grand Bay Agricultural Station produced 900lbs. Cabbages.

(vii) **Corn.**—The Grand Bay Agricultural Station produced a total of 58 barrels approximately 7,250 lbs. of corn valued at \$768.00 from 2½ acres at a cost of only \$95.82. Most of this was utilized as stock feed on the various Agricultural Stations and at Melville Hall Estate.

LIME EXPERIMENT STATION.

(a) **Limes.**—The conservation measures which now extend over the whole area under limes were well maintained. The drainage system received the necessary attention and worked efficiently. All plots were hand forked, and about 1/3 of the area was treated with pen manure at the rate of 150lbs per tree.

The plot of limes budded on seville stock established in 1947 made good growth, and no supplies were needed. A new plot of ¼ acre budded on citrus mitis was established.

The crop for the station amounted to 781 barrels as compared with 912 barrels for the previous year. Yields for all groves in the island showed a downward trend.

PLANT DISTRIBUTION.

Sale was by quarterly tender and for purposes of comparison, the previous year's prices are quoted :—

	1948	1949
1st Quarter	\$2.08	\$2.34
2nd „	\$2.08	\$2.52
3rd „	\$2.08	\$2.64
4th „	\$2.08	\$2.64

(b) **Other Varieties Citrus.**—Two new plots of $\frac{1}{4}$ acre each were planted with the following varieties :—

Oranges : Glen Improved Navel, Polk's Summer, Armstrong Seedless, Clementine and Florida.

Tangelos : Orlando and Mineola.

Grapefruit : Marsh and Thompson.

The plot established in 1947 with the exception of the Calamondins made satisfactory progress.

PLANT DISTRIBUTION.

Plant nurseries were maintained at the following places during the year. Botanic Gardens, Goodwill Estate, District Agricultural Stations, Vieille Case, Grand Fond and Delices.

Plants distributed during the year are detailed below :—

(a) Budded or Grafted Plants

Washington Navel Orange	5,275 plants
Valencia	1,246 „
Lambs Summer	431 „
Grapefruit	2,364 „
West Indian Limes	17,554 „
Other Citrus	443 „
Avocado Pears	77 „
Mangoes	42 „
	27,432 plants

(b) Other Economic Plants.

Dwarf Coconuts	104 plants
Nutmegs	1,899 „
Fodder Grass	7,300 cuttings
Yams	1,121 lbs.
Citrus Stocks	1,950 plants
Cocoa Seedlings	904 „
Coffee Seedlings	2,277 „
Sugar Cane Cuttings	4,862 cuttings
Tannia Plants	2,350 plants
Tephrosia Seeds	21 lbs.
Horse Beans	58 lbs.
Vegetable Seedlings	5,836 „
Vegetable Seeds	1,966 packets

PLANT INTRODUCTIONS.

PLANT INTRODUCTIONS.

Seeds and plant material introduced during the year comprised the following :—

Cocoa Budwood	I.C.S.	1	Department of Agriculture, St. Vincent.
	I.C.S.	6	
	I.C.S.	16	
	I.C.S.	39	
	I.C.S.	40	
	I.C.S.	45	
	I.C.S.	46	
	I.C.S.	46	
	I.C.S.	46	
	I.C.S.	48	
	I.C.S.	95	
	I.C.S.	98	
Palm — Fairchild		20 seeds	
Tropical Gardens			Mr. & Mrs.
No. 386 (Undetermined)			Arthur A. C. Langlois,
Archbold Expedition to the Moluccas.			C/o Retreat Gardens, Village Road, Nassau N.P., Bahamas, B.W.I.
Palm — Fairchild		7 seeds	
Tropical Gardens			
No. 208 Areca Spp.			
Archbold Expedition to the Moluccas.			
Palm — Fairchild		6 seeds	
Tropical Gardens			
No. 331 (Undetermined)			
Archbold Expedition to the Moluccas.			
Pinus Tæda		2 ozs.	Forestry Department Produce,
Cryptomeria Japonica		2 „	Director of Forestry, P.O. Box 334, Pretoria.
Supressa Tomatoes		10 ozs.	Antilles Products Ltd.
Pumpkin King of the Mammoth		1 pkt.	K. B. Tzannides.
Duranta		4 plants	Department of Agriculture,
Barleria		6 „	St. Augustin,
Hibiscus		4 „	Trinidad.
Ficus Repens		6 „	
Poinsettia		4 „	
Pink Plumbago		2 „	
White Bougainvillea		2 „	
Rex Jasmine		2 „	
Lady Watt Bougainvillea		2 „	
Cupressus Sempervirens		6 „	
Buddleia		2 „	
Cactus		18 „	
Begonia		9 „	
Ipomoea Spp.—Ornamental		2	

COCOA PROPAGATION STATION.

COCOA PROPAGATION STATION

Reference was made in last year's report to the approval of Scheme D 941 under the Development and Welfare Act for the establishment of a propagating station for the purpose of producing improved planting material to aid in rehabilitating the Cocoa Industry. During the current year work consisted of the construction of staff quarters, a garage for the truck, propagating bins and a budding shed. A water supply was also installed.

Work on the Nursery site was completed in the way of planting of bananas and ground shade. The area was divided into 30 sections each with a capacity of 40 plants which when fully established will give a total of 1,200 plants. By the end of the year 927 plants were in the ground, comprising 26 clones viz :—

D.S. (Dominica Selections) Nos. 1 to 10 (10).

I.C.S. (Imperial College Selections) Nos. 1, 6, 8, 16, 29, 40, 45, 46, 48, 60, 95 and 98 (12)

G.S. (Grenada Selections) Nos. 5, 29, 33 and 65 (4)

None of these plants are as yet yielding cuttings.

It should be recorded that a nursery of selected clones was started at the Botanic Gardens in 1944, and now contains 891 plants. This bank of plant material was of immeasurable help in establishing the nursery at the Cocoa Station, and made possible the production of rooted cuttings for distribution to growers before the Cocoa Station was fully established.

Three consignments of budwood of I.C.S. clones were received from St. Vincent. (See Plant Introduction for details).

Selection Work.— Observations on promising trees continued at Clark Hall Estate.

Distribution of Cuttings.— During the year 1,303 cuttings were distributed. These were planted in areas approved by the Department of Agriculture and it is hoped will serve as demonstration units.

LIVESTOCK

(a) **Stud Animals.**— The only importation for the year was a pure bred Jersey bull from Jamaica, which will not be ready for service until next year. The Berkshire and Large Black boars imported last year commenced services in the latter part of the year. Pure lines of both breeds will be maintained to produce first crosses which have a very rapid rate growth.

At the end of the year the following stud animals were on strength.

<i>Bulls</i>	<i>Stallions</i>	<i>Sheep</i>	<i>Pigs</i>
5	1	3	2

The following table sets out the number of services recorded during the past five years.

EXTENSION WORK.

Animal	Number of Services and Year					Total 5 years
	1945	1946	1947	1948	1949	
Bull	331	478	330	183	107	1,429
Sheep	136	79	81	146	5	447
Horse	30	22	27	6	11	96
Pig	—	36	70	36	13	155

The above figures do not include return services, and in the case of ram sheep exclude services at Melville Hall Estate and when loaned out to run with private flocks.

(b) **Poultry.**— Six pens were maintained during the year and the following table sets out the distribution of eggs during the past five years.

Year	1945	1946	1947	1948	1949	Total
Eggs distributed	1,376	1,836	885	1,062	989	6,148

(c) Pens of Pekin ducks were maintained at all Agricultural Stations and eggs distributed for the year totalled 157.

EXTENSION WORK

This consists of giving advice to all growers through personal visits, demonstrations and other appropriate measures. The staffing difficulties referred to elsewhere reflected on the efficiency of the service, and retarded new developments. Visits were paid to small holdings and estates by all members of the staff. Particular attention was paid to inspection of areas prior to planting of citrus and 'follow up' visits to advise on the maintenance of approved cultural practices.

The five Agricultural Stations were maintained. It is regrettable to have to again record no further developments owing to inadequate staffing arrangements. Services provided were as follows :—

(i) **Plant Nurseries.**— Plant material in the form of budded and grafted plants, ground provisions, fodder grasses, and seed of European vegetables were available at Agricultural Stations. (For details see Plant Distribution.)

(ii) **Livestock Improvement.**— Stud Centres were operated at four Agricultural Stations, viz. Londonderry, Grand Bay, La Plaine and Portsmouth. (Services recorded are shown under 'Livestock'.)

(iii) **Observation Plots.**— Relative information is supplied under ('Crop Observation etc.')

(iv) Investigational work was limited to manurial experiments on vanilla and tomato variety trials.

CONSERVATION OF NATURAL RESOURCES

In the Soil Conservation Progress report for 1943, the following statement was made. "Under conditions obtaining in Dominica any real progress in soil conservation is bound up with the framing of a Forestry policy. It is considered that early and energetic action on these lines is clearly indicated if it is intended to deal with soil erosion in Dominica before it becomes sufficiently serious to compel attention." It can now be recorded that a forest service has been established and

PRODUCE INSPECTION.

was in operation during the year, thus providing one of the essential requirements for the successful outcome of the conservation programme. It will no doubt take many years to reap the full benefits from the application of the Forest, Soil and Water Conservation Ordinance, but a start has been made in halting the wastage and destruction of the Forest Resources, which will without a doubt be effectively reduced in succeeding years.

Continued propaganda and active help on the part of the Department contributed to the spread of conservation practices in the Agriculture of the island. The laying out of contour drains, planting of grass barriers, building of stone barriers and planting of orchard crops on the contour are the main measures adopted. The continued efforts of the past seven years has resulted in a very appreciable acreage being protected from erosion. With the rapid expansion of the banana industry however, there is great danger of soil erosion unless the proper safeguards are adopted, and every effort was made to induce cultivators to adopt the necessary safeguards.

PRODUCE INSPECTION

The revised inspection service organised last year continued to function satisfactorily during the period under review. The improvement of quality was well maintained and it can be justly claimed that the average quality of vanilla exported was of a uniformly high standard.

The following table sets out the quantities of green beans inspected at the various buying stations :—

<i>Stations</i>	<i>Green beans</i>
Roseau	71,267 lbs.
Mahaut	486 "
St. Joseph	8,563 "
Coulibistrie	3,244 "
Colihaut	820 "
Portsmouth	210 "
Marigot	49 "
Castle Bruce	150 "
Grand Bay	909 "
Rosalie	144 "
Delices	90 "
Vieille Case	221 "
	86,153 lbs.

Of this quantity, 355 lbs. were rejected as unfit for sale. In addition, cured beans totalling 68,823 lbs. were inspected prior to export.

AGRICULTURAL EDUCATION

(a) **Pupil Apprentice Course.**— Thirteen pupils were enrolled at the beginning of the year, two of them left on their own accord and six others were admitted for training.

Plans were discussed for the establishment of an Agricultural School or equivalent Institution for the training of Agricultural Pupils. It is hoped that such an institution will be established next year to undertake the important task of training young agriculturists.

(b) The following periodicals were received and circulated amongst the staff :—

STAFF NOTES.

The Smallholder and Home Gardening ;
 The Journal of the Jamaica Agricultural Society ;
 The Farm Journal of British Guiana ;
 Proceedings of the Agricultural Society of Trinidad and Tobago ;
 The Negro Farmer ;
 The American Small Stock Farmer.

STAFF NOTES

MR. L. L. DE VERTEUIL, Superintendent of Agriculture, was absent from the Colony on vacation leave from 13th August to 17th September, 1949. During his absence MR. L. KONG, Assistant Superintendent of Agriculture, acted in his stead.

MR. L. KONG arrived in the Colony on 22nd July, 1949, and assumed the duties of the Assistant Superintendent of Agriculture.

MR. S. O. PRINGLE, Agricultural Assistant, Northern District, was on sick leave from 3rd to 16th September, 1949.

MR. G. J. STEDMAN, Senior Agricultural Instructor, was on vacation leave from 1st November to 13th December, 1949. This leave was in respect of 1948. This Officer also performed the part time duties of produce Inspector.

MR. H. C. BURTON, Cocoa Assistant, was on vacation leave from 7th June to 9th July, 1949.

MR. W. G. COIPEL assumed the duties of acting Foreman, Botanic Gardens, on 9th March, 1949.

MR. C. A. SEIGNORET was appointed to the post of 1st Class Clerk on 15th August, 1949, retrospective from the 1st January 1949.

MR. C. A. SEVERIN 3rd Class Clerk, was on sick leave from 25th July to 1st August 1949. On the 15th August this Officer was appointed to the post of 2nd Class Clerk, Forest Service.

MR. A. K. I. ANDRE, 2nd Class Clerk, was appointed to the post on the 15th August, 1949, in the place of MR. SEIGNORET.

MISS J. G. NICHOLLS, 3rd Class Clerk was appointed in the place of MR. C. A. SEVERIN on the 15th August, 1949.

MISS L. V. TOULON, 3rd Class Clerk, was appointed on the 15th August, 1949, under the Development and Welfare Scheme D 1051.

MR. J. A. DEFOE, Foreman Cocoa Station, was appointed to the post on 1st June, 1949.

Forest Service.

MR. J. A. N. BURRA, Assistant Conservator of Forests, assumed duties on 14th February, 1949.

MR. C. O. HILL, Forest Supervisor, was appointed on 14th March, 1949.

OFFICIAL VISITS

MR. G. N. SALE, Conservator of Forests, Trinidad, visited the island from 14th February to 2nd March, 1949. Dominica owes a debt of gratitude to MR. SALE for his invaluable advice and encouragement in the organisation and initiation of the Forest Service in Dominica. It is a matter of deep regret that owing to his retirement from the service in the course of the year, his counsel and advice will no longer be available to the Department.

APPENDIX I.—REPORT ON FOREST SERVICE

ACKNOWLEDGEMENTS

It is a pleasure to record the thanks and appreciation of the Staff of the Department to the Honourable Members of Executive and Legislative Councils, the Planting Community and all those who have assisted and co-operated in the work of the Department. The local press has rendered valuable service by giving publicity to the department's work and at times offering constructive criticism. The thanks of the Department is also extended to Planters for their hospitality to the visiting officers.

Finally I wish to pay tribute to the Staff for their good work during a difficult year.

L. L. de VERTEUIL,
Superintendent of Agriculture.

APPENDIX I.

REPORT ON FOREST SERVICE

Introductory.

As far back as 1874 the possibility of establishing a Forestry organization was investigated, only to be shelved for an indefinite period. In 1888 MR. E. D. M. HOOPER submitted a report. In more recent times i.e. in 1936, MR. A. WIMBUSH of the Indian Forest Service toured the Windward and Leeward Islands and submitted a "Report on the Forestry Problems of the Windward and Leeward Islands". Referring to Dominica he states "Years and years ago Government ought to have carried out a Revenue Settlement and Forest Settlement Combined with a survey of the island. In Dominica where about half of the island consists of Crown Lands, it is by no means too late to do this now and that is what ought to be done if funds and staff can be provided".

As a minimum to improve upon the then nebulous state of affairs, he recommended the passing of a Forest Ordinance and a small staff to enforce its provisions, as well as the selecting and demarcating of suitable areas as Forest Reserves. No action whatever appears to have been taken by the Local Government.

In 1944 was published "Forestry in the Windward Islands" as Bulletin No. 11 of Development and Welfare in the West Indies. The material for this publication was collected by DR. J. S. BEARD of the Trinidad Forestry Department. Dominica was visited in 1942 and 1944, and on both occasions DR. BEARD received the full co-operation of the Department of Agriculture which rendered his task less difficult than it might have been.

The recommendations concerning Dominica unlike the previous ones, received the serious attention of Government. In 1945 the following Forestry Policy was formally adopted by the Legislative Council.

(a) LONG TERM FOREST POLICY

Scientific Survey

To assist in carrying out as soon as possible in collaboration with other Departments concerned a complete scientific survey of Dominica, including topographical, cadastral, soil, botanical, ecological and agronomic surveys, in order to provide the necessary data for land planning.

Land Allocation

On completion of the scientific survey to draw up in collaboration with other Departments and interests concerned a complete land allocation and conservation policy for Dominica.

Forest Reservation

To effect the permanent reservation as forest of all areas which may be allotted to forestry under the land allocation policy.

Forest Management

To manage these Forest Reserves in such a manner that, while still fulfilling their protective functions in the interests of soil and water conservation, they may at the same time provide the maximum out-turn of forest produce on the basis of a sustained yield.

Utilisation

To effect the fullest possible utilisation of the products of the forests subject to the requirements of forest management and to encourage the most economical use of lumber.

Research

To carry out such experimental work as may be necessary to implement the forest policy.

Education

To educate and train the subordinate forest staff and educate all classes of the community to an understanding of the benefits and value to the Community of forests managed on a sound basis.

Private Forestry

To encourage and assist in every possible way the owners of private forests, woodlands and plantations, so that these may be managed in the most economical manner, and to prevent wastage and destruction of forest resources on private land.

Protection of Nature

To include within the scope of forestry projects for the introduction and protection of game animals, birds and fish and for the preservation of localities of natural scenic or scientific interest.

(b) SHORT TERM FOREST POLICY.*Forest Conservation*

Pending the allocation of Forest Reserves under the land allocation policy, to preserve from spoliation all forests owned by the Crown and to bring squatting and felling of timber under control.

Forest Management

Pending completion of the land policy to permit the cultivation of Crown Lands, and the cutting of timber under licence, with collection of fees and royalties under such management as will prevent depletion of resources.

Staff

To secure the appointment of a field staff adequate to undertake the execution of the forest policy.

Land Usage

To co-operate with all other land interests in the achievement of optimum land usage and in all projects for soil and water conservation and the prevention of erosion.

*Utilisation**Research**Education**Private Forestry**Protection of Nature*

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To begin to implement immediately, so far as is possible, the long term forest policy under these heads.

APPENDIX I.—REPORT ON FOREST SERVICE

In 1946 a scheme based on DR. BEARD'S recommendations, prepared by the Superintendent of Agriculture, received the approval of the Legislature and was submitted in advance of the Island's 10 Year Sketch Plan. It was not, however, until late in 1948 that approval was received for a Colonial Development and Welfare Scheme (D 1042) for the Establishment of a Forestry Service in Dominica. Thus from the first recorded attempt to organise a Forestry Service in 1874, it has taken 63 years to make it a reality. This delay has cost the community an estimated \$200,000.00 in stumpage royalties over the past 60 years, and destruction of Forest Resources in the spoilation of stands of timber and in the reduction of forest lands to unproductive bush is valued at not less than \$1,000,000.00. In addition, results from uncontrolled use of the forest lands, a serious reduction of the indirect benefits such as the maintenance of water supplies and prevention of floods and erosion has made necessary the expenditure of hundreds of thousands of dollars in flood damage to roads and bridges. Finally it is inconceivable that the squatter problem would be what it is today had a Forestry Service been in existence before the 1914-1918 war.

Preliminary Organisation.

During the period 1942-1948, an Assistant Conservator of Forests was seconded from the Department of Forests, Trinidad for work in the Windward Islands and was stationed in Grenada. As an improvement on this arrangement, Windward Island Scheme D 1137 provided for the employment of an Assistant Conservator for four years to spend one year in each island. MR. J. A. N. BURRA, recently Assistant Conservator of Forests, Palestine, was appointed to the post and after spending six months in Trinidad arrived in Dominica in February of this year to carry out preliminary organisation of the Service. It has since been proposed that he remain in Dominica for four years as one year has been found far too short a time to put the Forestry Service on a proper footing.

In the latter part of 1948, applications were invited to fill the cadre of Rangers and Guards as well as the post of Forest Supervisor. Early in 1949, MR. G. N. SALE, Conservator of Forests, Trinidad, and Adviser to the Governor Windward Islands, spent some weeks in the Island to advise on the inauguration of the scheme, including the selection of staff who were chosen from applicants numbering well over one hundred.

THE FOREST ESTATE

(1) *Crown Lands.*

Area.—Estimates as to the total area under Forests have been placed at 75%, 65% of which is owned by the Crown. These figures are based upon no reliable data in that the extremely broken nature of the country, the complete lack of any permanent boundary marks or large scale maps, and the freedom with which the peasant and others have been allowed to trespass, makes any more accurate estimate impossible. It is best stated that practically the whole of the Central core of the islands is forest clad apart from the Morne Diable Region in the extreme North and South of the Morne Anglais Area in the South.

(2) *Private Lands.*

Apart from some of the estates on the Transinsular Road, which carry a fair proportion of Rain Forest, and, in the inaccessible black blocks of the estates occupying the perimeter of island, the Forest is poor and often subject to shifting cultivation, cordwood cutting, and selective felling based upon the smallest size of tree which can yield any return whatsoever. Fortunately the soil and water conservation properties of the existing degraded and scrub forests are good. There is the danger, however, with improved coastal hinterland communications that much of this type of Forest Growth may disappear in favour of indiscriminate cordwood cutting and agricul-

APPENDIX I.—REPORT ON FOREST SERVICE

tural development. It is insufficient to protect the central Forests alone, and Land-owners must be sufficiently farsighted to preserve parts of their estates under Forest for posterity if the full effect of the new Forest Service is to be appreciated.

Communications.

Access to the true Rain Forest is practically non-existent at the moment, but, with the proposed Road programme, viz., the Traninsular and Castle Bruce Roads, an estimated ten miles of some of the more valuable forest will be opened. With the very justifiable stress on Agriculture in Dominica, it is not generally realized that potential wealth exists which can be put to good use should these roads mature. With conservative management the possibility of a healthy timber export to neighbouring islands and even to North America and Europe is no wild dream.

Crown Land and Forest Protection Prior to the Forest Service.

Control was extremely loose due to the existing Government Departments having their hands overfull with work essential to the maintenance of the island's immediate economy. As far back as 1892, and probably further, records exist showing that the Administrator and Colonial Engineer were disturbed by overfelling and uncontrolled cultivation.

Sales of Crown Lands, as part of Government policy, have taken place for as long a period as can be traced. These sales until a few years ago, were haphazard and little notice was taken of the importance of the land sold from the Soil Conservation or Utilization angles. This resulted, down the years, in sales of lands which should have remained under Forest for Protection purposes, and of 'ribbon development' sales for estate development along roads, rendering areas of Crown Lands behind these ribbons quite inaccessible.

Summary. At the present time nearly all the land in Dominica accessible by sea or road has been sold. Private estates both small and large hold areas of Forest land subject to their owners whim and liable, during any decade, to complete ruination. The position today is far from secure. It must be the aim of the Forest Service with the help of the other Land use Departments, to create a state of affairs where the needs of Agriculture can meet, not at the expense of the Forests, whether for protection or utilization purposes, but as an integral part of the Land use system.

Legislation.

In 1946, a Forest, Soil and Water Conservation Ordinance was passed. This very important step has helped the rapid formation of the Forest Service enormously.

In 1949, the Crown Land (Forest Produce) Rules were introduced laying down Licence procedure and Girth Classes for sale of trees together with prices for all Forest Produce.

The Superintendent of Agriculture is appointed Chief Forest Officer under the Forest, Soil and Water Conservation Ordinance.

From 14th March until 31st May, the staff consisting of Forest Supervisor, Four Forest Rangers, and Eight Forest Guards underwent training, largely in the Forest. Due to the short time which the Assistant Conservator of Forests was then expected to stay (one year) it was not possible to hold a longer course but subsequent events have shown that the majority of the men have grasped the first principles of Forest Protection, Forest Law, Licence Procedure, Offence detection and prevention and Enumeration Survey. No more could have been asked of them.

From 1st June the island was divided into four Ranges, each with one Ranger and two Guards. A few weeks later Assistant Forest Guards on a basic pay, without uniforms or permanent status, were taken on as it was realized that whilst a range might not appear large on plan the extremely broken country resulted in the Ranger

APPENDIX I.—REPORT ON FOREST SERVICE

and two Forest Guards being unable to handle patrol of the entire area alone. Each Range was divided into two beats with a Forest Guard and Assistant Forest Guard in each. This system is satisfactory.

Regular office days, mainly at Police Stations, have been arranged for licencing and removal permit issue. Royalty collection is also carried out through Police Stations, the officer in charge issuing an official Forest Service Receipt.

Education.

Five Extension Circulars explaining the aims of the new Forest Service have been issued to the press and Social Welfare Departments with extra copies distributed to Schools, the Church and other prominent bodies and persons throughout the island.

Lectures were delivered by the Assistant Conservator of Forests at Roseau, Portsmouth and 24 villages throughout the island, explaining the purpose of the Forest Service.

The staff carries out similar informative work as routine.

Forest Reservation.

Preliminary reconnaissance has begun for Reservation of what is to be known as the Central Forest Reserve. This area will embrace the larger part of the Crown Land Rain Forest in the centre of the Island North of, but including, the Transinsular Road Trace. Survey of this Reserve will form the main work for the Forest Supervisor, who is also a licenced surveyor, in Scheme D 1042 and will include an estimated 55 square miles (1/6 of Dominica).

Survey of 7 — 10 square miles of Crown Forest and Private Lands to serve as a Catchment Reserve for the headwaters of the two branches of the Roseau River and their side streams is progressing. This catchment will maintain a constant flow for the Colonial Development Corporation Hydro-Electric Power Scheme. The cost of this survey together with funds to maintain a Forest Guard and Assistant comes from the Colonial Development Corporation.

Forest Protection.

The greatest bar to efficient protection is the shifting cultivator. Not only does this iniquitous practice ruin the forest but it gives full opportunity to the peasant to steal produce. An unfortunate directive during the two world wars gave the people free access to Crown Lands to plant food crops. This, due to there being no protection staff in the past, degenerated into permanent squatting on an area with permanent crops (mainly cocoa, coconuts, coffee, vanilla). Thus today the fringes of Crown Lands and certain steep but fertile valleys are dotted with cultivators, many with both permanent plots and plots on which they practice shifting cultivation.

Realizing the danger of allowing such practices to continue unchecked with the present banana boom, a scheme has been submitted for Forest Squatting Control where certain areas of Crown Lands near villages will be kept with forest on the worst slopes and stream beds, and the more level portions in between will be made available for cultivation.

Normal Forest patrol by the new staff has resulted in greatly reduced thieving from Crown and Private Lands.

Apart from man and a few of his domestic animals, the forest is not liable to any other serious menace apart from hurricanes.

Utilization, Timber Protection, Minor Forest Products.

There is no real vocation in pitsawing which is usually considered an offseason occupation to cultivation. This results in a lack of readily obtained well sawn local woods.

APPENDIX I.—REPORT ON FOREST SERVICE

Since the introduction of the Forest Service there has been a marked decline in sawing on Crown Lands due to the charge now made for trees. These charges are very reasonable, but the peasant objects on principle. There is a similar reduction on private lands due to tightened control of movement of stolen trees.

Charcoal production has lessened, to a small degree for the same reasons given above, but in the main to the present banana boom which has resulted in concentration by the peasants on planting bananas and leaving the trees, felled to give space, rotting on the ground.

There is one sawmill with woodworking shop belonging to Messrs. Smith and Lord at Canefield which is operated most efficiently and turns out a product which is in constant demand. This proves that, were better finished timbers available in quantity, local woods would find a wider use in preference to imported Canadian lumber.

Timber Protection.

No real efforts are made to practice wood preservation, proper seasoning methods or termite control. It is to be hoped that more Government buildings will be erected with cheap precautionary measures against, termites, to set an example. The new Agricultural Offices are fitted with anti-termite shields and a model seasoning shed is planned.

Minor Forest Products.

Apart from canes used in the well known Dominica Baskets, and dugout 'canoe' making, both mainly by the Caribs, minor Forest products do not play a large part in Local Industry. Sales have been negligible so far.

Forest Stations.

A site has been chosen near mile 11 of the Transinsular Road for a Forest Station to consist of a Ranger's and two Guards' Rest houses. This site was selected as being at the junction of the proposed Castle Bruce and Pont Casse — Layou Roads so that control of movement will be effective.

Sylviculture and Research.

There is nothing to report beyond the fact that an area has been selected for Improvement fellings to gauge reaction by local species to increased light and tending.

Nursery trials are planned.

Soil Conservation.

Mention has already been made of the Forest Squatting Control Scheme which aims at improved Soil Conservation methods in farming just as much as Forest Protection.

Dominica has not been degraded to the extent that were it left in peace a healthy growth of secondary species and eventually high forest would not return. This does not mean that Soil Erosion, Flood and Reduced stream flow are not serious but that the final state of ruination is not yet reached. Constant vigilance is necessary.

Preservation of Nature.

For the first time some control of dynamiting and poisoning of fish is being attempted. No cases have been brought to court but the public is constantly warned. Game preservation is under review.

Acknowledgment.

The Caribbean Forester is gratefully acknowledged as is the Trinidad Forest Department's Annual Report for 1947. Thanks is also given to the Conservator of

APPENDIX II.—AGRICULTURAL LEGISLATION

Forests, Trinidad, for assistance both material and advisory during the past year when problems arose which could only be solved by outside help.

APPENDIX II.

AGRICULTURAL LEGISLATION.

Crown Lands (Amendment) Ordinance, No. 11 of 1949.

Dominica Agricultural Scholarship Ordinance, No. 16 of 1949.

Crown Lands (Forest Produce) Rules, (S.R. & O. No. 19 of 1949).

Compounding of Forest Offences, (S.R. & O. No. 24 of 1949).

Crown Land (Forest Produce) (Amendment) Rules, (S.R. & O. No. 35 of 1949).

APPENDIX III.

SUMMARY OF INVESTIGATIONAL WORK CARRIED OUT
DURING THE YEAR.

(a) **Sugar Cane Variety Trial.**— An experiment to compare eight cane varieties viz. B 4145, B 40105, B 37172, B 4098, B 41227, B 37161, B 3337 and B 3439 was laid down on the Soufriere Estate by kind consent of and co-operation of the owners on the 4th February, 1947.

The layout of the experiment was in the form of a 8 x 5 Randomised Block. Canes were reaped as plant canes on the 26th and 28th April, 1948, and as 1st Ratoons in May, 1949.

Results obtained in the 1st Ratoons are presented in the following table :—

Variety	Tons Cane per Acre	Tins Syrup per Acre
B 40105	45.34	182
B 3337	45.51	156
B 37172	39.28	154
B 37161	39.65	150
B 4098	33.76	144
B 4145	37.87	133
B 41227	48.85	128
B 3439	30.66	111

Statistical Analysis has shown that varieties B 40105, B 3337 and B 37172 are significantly superior as regards number of tons cane per acre to any of the other varieties viz. B 37161, B 4145, B 4098, B 41227 and B 3439. It must be observed that B 40105 gave the highest yields both as plant canes and first ratoons and B 3337 which was in Class II according to the 1948 reports emerged second to B 40105 in this ratoon trial.

However, the combined yields of the two crops with possible gross returns per acre on the basis of \$2.52 per tin of syrup, are set out as follows :—

APPENDIX III.—SUMMARY OF INVESTIGATIONAL WORK

Variety	40105	37172	4098	37161	41227	3337	4145	3439
Tons Cane per acre	104.04	92.99	81.76	84.52	102.95	87.18	84.17	69.52
Tins Sy- rup per acre. ..	417	364	349	320	308	297	295.5	251
Value @ \$2.52 per tin	\$1050.84	\$917.28	\$879.48	\$806.40	\$776.16	\$748.44	\$744.66	\$632.52

Although B 3337 may be a good ratooner, the combined yields indicate that this variety falls below the level of B 40105, B 37172, B 4098 and B 37161.

(b) **Vanillas.**—The vanilla experiment laid out at the Grand Bay Agricultural Station to test the effect of the varying combinations of lime, superphosphate and muriate of potash on the yield and incidence of root disease (*Fusarium Batatis* var. *Vanillae*) had to be abandoned at the end of the year. A considerable number of the vines had succumbed to the disease and others were damaged by the heavy winds at the beginning of August. Previous observations indicated that no particular treatment showed any significant resistance to root disease incidence.

(c) **Canary Island Tomato Trials.**—The Canary Island Tomatoes meet the requirements of the United Kingdom market which does not require the large tomatoes of American and Canadian type. Hitherto only the latter type have been grown in Dominica. In view of the possibility of suitable shipping facilities to the United Kingdom and the interest expressed by an importer, these preliminary trials were undertaken to test these varieties under local conditions.

The three varieties used were Lima, Pelota and Surpressa. The trials carried out at Londonderry Agricultural Station, Grand Bay Agricultural Station and Botanic Gardens were started in December, and all fruits were harvested by mid April, 1949. Seeds were sown in seed boxes and transplanted when the plants were about six inches high.

Cultivation.—The ground was first forked and then ridged, and all plants were staked using a wigwam trellis. Planting distance was 4' x 2'. All non fruit-bearing side shoots were regularly pruned.

Manurial Applications.

(a) **Londonderry Agricultural Station.**—One month after planting, a dressing of 3 ozs. of superphosphate was given to each plant.

(b) **Grand Bay Agricultural Station.**—1½ lbs. pen manure plus 1 oz. of superphosphate per plant was applied one month after planting.

(c) **Botanic Gardens.**—At time of planting 1 oz. of superphosphate to each plant. This was followed by two applications of 9:5:7 six weeks and ten weeks after planting respectively.

Rainfall.—The rainfall during the period 1st December, 1948, to 15th April, 1949, was as follows:—

APPENDIX III.—SUMMARY OF INVESTIGATIONAL WORK

	<i>Londonderry Agri. Station</i>	<i>Grand Bay Agri. Station</i>	<i>Botanic Gardens</i>
1948			
December ..	3.17	8.15	6.97
1949			
January ..	3.19	4.98	2.06
February ..	4.92	9.97	6.44
March ..	6.64	4.96	2.73
April 15th ..	89	1.49	75
	18.81	29.25	18.95

Summary of Tomato Trials.—The following is a summary of the results of the tomato observation varietal trials carried out at the Londonderry and Grand Bay Agricultural Stations and at the Botanic Gardens.

The three varieties used viz. Lima, Pelota, and Surpressa were introduced from the Canary Islands where they are grown as commercial varieties.

YIELDS:

	Londonderry		Grand Bay		Botanic Gardens	
<i>Variety</i>	Yield in lbs. per acre	Yield in lbs. per plant	Yield in lbs. per acre	Yield in lbs. per plant	Yield in lbs. per acre	Yield in lbs. per plant
Lima	13,068	2.4	28,186	5.1	28,856	5.3
Pelota	13,068	2.4	24,769	4.4	20,104	3.5
Surpressa	19,058	3.5	39,026	7.1	31,284	5.9

The trials were started simultaneously in mid-November 1948, and all fruits were harvested by mid-April 1949. At all stations plants were placed on beds and Cultural Treatments were as follows:—

Botanic Gardens.—Seeds were sown in seed boxes on the 13th November, 1948, and were pricked off and then planted out in the fields on the 30th November and 13th December respectively. Planting distance was 2' x 4' and at the time of planting an ounce of superphosphate was placed in each hole. This was followed by two light applications each of one ounce per plant of N.P.K. 9:5:7 on the 25th January and 14th February 1949.

The wigwam trellis on which the plants were allowed to trial and lie recumbent was used and reaping began in the first week of March and terminated on the 6th April.

Grand Bay.—Seedlings were supplied through the Botanic Gardens and planting out in the field took place on the 7th December, 1948. A light dressing of well rotted pen manure was applied on the 4th January, 1949, with an additional ½ oz. of superphosphate per plant. In mid-March many fruits were already matured and fit for picking. The wigwam trellis proved useful in that it supported the heavy clusters and at the same time it afforded some protection from birds.

Londonderry Station.—Seeds were sown on the 22nd November, and pricking off was done on the 3rd December. On the 13th December the plants were in the fields, planted at a distance of 3' to 4'. The plants were staked on the 10th of

APPENDIX IV.—REPORT ON GOVERNMENT OWNED ESTATES

January, 1949, and six days after each one received a dressing of 3 ozs. of super-phosphate.

General Observations.— Three lbs. per plant under field conditions is considered a good average yield. The yields obtained in the trial plots are on the whole very encouraging especially for the variety Surpressa. It must be appreciated however, that the yields recorded here are from yields and do not take into account fruit which might be rejected if packed for export. A further encouraging feature of these varieties is their marked resistance to the wilt disease which is a serious limiting factor to tomato growing in Dominica.

APPENDIX IV.

REPORT ON GOVERNMENT OWNED ESTATES.

(a) Melville Hall Estate.

Policy.— The policy adhered to was that of maintaining the cultivations and livestock in accordance with approved principles of husbandry.

Development work consisted of planting out new fields of bananas and of increasing the number of existing livestock.

Work on the Estate.

Coconut Cultivation.— All necessary maintenance work including draining and cutlassing were carried out. The dwarf coconuts planted in 1947 have made satisfactory progress and in December one palm flowered.

Grapefruit and Orange Cultivation.— These fields had three weedings during the year and received one application of 5:10:10 fertilizer at the rate of 4lbs. per tree in October.

Limes.— Lime fields received little or no attention as the general condition of the trees is so poor as to be considered hopeless, it is planned to replace them with dwarf coconuts as soon as these plants are available.

Bananas.— Six acres of bananas were planted in the course of the year.

Livestock.— Working oxen. The team of six was maintained as in previous years for draft purposes and proved invaluable for transport work on the estate.

Pigs.—The breeding pen was made up of four sows and one grade Large Black Boar. Six litters of young pigs were raised and sold to peasants in an effort to assist them in improving their animals.

Sheep.— An attack on the flock by roving dogs in the early part of the year resulted in the loss of three ewes and seven lambs leaving a total of seventeen animals at the end of the year.

Ducks.—The run established last year was stocked but efforts to raise ducks on the estate proved futile, as thieves were responsible for the disappearance of the majority of the flock.

Larceny.— Careful vigilance was maintained on the estate but coconuts were occasionally stolen from remote areas. Two convictions were gained in the magistrate's court.

Labour.— No difficulty was experienced in obtaining labour during the year.

Staff.—In March the Manager appointed took over the running of the estate from the Agricultural Assistant but unfortunately the services of the former had to be dispensed with after a short time and the management was again entrusted to the Agricultural Assistant.

APPENDIX IV.—REPORT ON GOVERNMENT OWNED ESTATES

MELVILLE HALL ESTATE

STATEMENT OF CASH RECEIPTS AND EXPENDITURE FOR 1949.

<i>Receipts.</i>		<i>Recurrent Expenditure.</i>	
Sale of Copra ..	\$13,756.86	Crops ..	\$ 3,743.66
Sale of Citrus ..	70.72	Livestock ..	917.64
Sale of Livestock ..	102.72	Staff and Watchman ..	1,522.67
Sale of Produce ..	6.93	Transport ..	208.40
Stud Services ..	.40	Insurance ..	162.22
Cattle Pasturage Rents ..	93.84	Contingencies (Main-	
Impoundage Fees ..	24.00	tenance of Build-	
Tools — (Reported Lost)	3.00	ings, Yards, Aque-	
		duct, Roads and	
		Carts ..	1,207.37
		By Balance ..	6,296.51
			\$14,058.47
	\$14,058.47		\$14,058.47
		<i>Capital Expenditure.</i>	
		Estate House ..	\$ 114.42
		Manager's House ..	728.16
		Stock Pens ..	24.72
		Pasture Improvement ..	141.10
		Purchase of Livestock ..	830.01
		Purchase of Tools and	
		Equipment ..	75.11
		<i>Extension of Cultivation :—</i>	
		Bananas ..	623.54
		Coconuts ..	4.68
		Citrus ..	277.84
			\$ 2,819.58

(b) Goodwill Estate.

Policy.—Work performed on the Goodwill Estate was mainly confined to the maintenance of existing lime cultivations and to encouraging the continued planting of the improved varieties of sugar cane by the tenants.

Weather Conditions.— The rainfall was fairly well distributed throughout the year with the exception of the latter two months when a dry period was experienced. It is feared that this will have an adverse effect on the coming crop.

Pottersville Land Rent.—The rental rates of house lots have remained unchanged and no additional lots have been given out.

Great difficulty was encountered in the collection of these rents and in consequence several delinquents have had legal proceedings taken against them.

Rents collected for the year amounted to \$1,572.20, placing arrears at \$1,571.16. The sum total of these two amounts represent the amount which should normally have been collected on lots already rented out.

Lime Cultivation.

Routine.— No forking operations were performed during the year but all drains were cleared and minor cultural operations carried out. All compost, pen manure and mulch were applied liberally and the existing cultivations continued to show improvement over the previous year.

During the course of the year 208 barrels of green and 1,114 barrels of ripe limes were collected giving a total of 1,322 barrels, and receipts for same amounted to \$3,428.62.

APPENDIX IV.—REPORT ON GOVERNMENT OWNED ESTATES

Cane Cultivation.— All cane cultivation is carried out by tenants on the half share basis, 45,000 cuttings of the newer varieties chiefly 37161 were distributed to them free of costs in an endeavour to encourage the planting of these new varieties which are superior to the older ones.

The sum of \$12,605.23 was paid to tenants during the year, this amount being the half share owing them for canes supplied to the factory.

Rum.—No canes were purchased from outside as it was impossible to handle any more than that grown by the tenants on the estate. The total amount of rum manufactured during the year was 25,287 gallons, and carry over from the previous year amounted to 11,701 gallons. Of the total 36,988 gallons, 11,566 gallons were sold in the course of the year leaving a balance of 24,846 gallons, 576 gallons being lost by evaporation.

As great difficulty was encountered in obtaining suitable storage space for rum, the basement of the old estate house was repaired and converted into a cellar. An additional cellar was also rented in the city and some limited storage space in the Export Warehouse was kindly allotted us.

Machinery.—The machinery worn out as it was, did not perform satisfactorily. Repairs to both boiler and rum still were effected but it is doubtful whether they will continue much longer.

Sale and Transfer of Land.— Certain sections of the Estate bordering the main road have been sold to the Colonial Development Corporation and Messrs. Jahn Strades and Company.

The Public Works Department has also acquired a portion of land along this said road and as a result of these transactions, it was necessary to transfer the overseer's quarters to a position west of the works and to demolish the old starch mill.

Cattle.— Some animals which were destined to be slaughtered but found fit for breeding purposes, were pastured at the Estate until they were disposed of to interested peasants.

Fodder Plots.— The fodder plots of Elephant, Sour, Guinea grass and Tropical Kudzu, were manured and limed and gave very good yields during the year.

Canal.— The usual routine work of clearing the canal of silt and weeds was maintained and in spite of some frail portions it continued to function satisfactorily and it supplied the full requirement of water.

GOODWILL ESTATE BALANCE SHEET

AS AT 31ST DECEMBER, 1949.

<i>Liabilities.</i>		<i>Assets.</i>	
Capital Account as on 1st January, 1949.	\$133,177.62	Cash Paid into Treas- ury	\$ 22,340.48
Additional Profit from Trading Account	9,150.58	Sundry Debtors	960.00
	\$142,268.20	Rental of Works	
		Pottersville Land Rent	\$ 763.18
		Produce	3,019.13
		Cattle Pasturage	155.20
		Purchase of Tools and Boiler B/F	4,549.74
		Repairs and Additions B/F	1,137.05
		Working Expenses B/F	1,212.69
		Stock in Trade	6,899.48
		Machinery, Plant and Premises Less De- preciation	33,123.76
			75,006.97
	\$142,268.20		\$142,268.20

AS AT 31ST DECEMBER, 1949.

1st January	To Stock in Hand ..	\$17,551.50	By Sales (Net) ..	\$20,674.90
to	" Manufacturing Wages ..	4,768.96	" Pottersville Land ..	
31st December,	" Motor Transports ..	1,808.26	Rent ..	1,572.20
1949.	" Cartage ..	446.86	" Cattle Pasturage ..	93.38
		\$24,575.58		\$22,340.48
	" Repairs & Additions ..	2,274.10	Stock in Hand per	
	" Less 50% C/F ..	1,137.05	Valuation ..	33,123.76
	" Purchases ..	16,599.53	Amount Recover-	
	" Less Boiler & Tools ..	4,549.74	able from Tenants	1,466.34
		12,049.79	Advances ..	\$56,930.58
	" Working Expenses ..	9,701.47		
	" Less 12% C/F ..	1,212.69		
		8,488.78		
	" Licenses & Taxes ..	891.66		
	" Installing Lights ..	81.92		
	" Lights ..	52.50		
		\$47,277.28		
	" Gross Profit Transfer			
	to Profit and Loss			
	Accounts ..	9,653.30	By Gross Profit from	\$ 9,653.30
		\$56,930.58	Trading Accounts ..	
	To Bad Debts on Potters-			
	vile Land Rent			
	Account ..	\$ 502.72		
	Balance being Net			
	Profit for year Car-			
	ried to Capital	9,150.58		
	Account ..	\$ 9,653.30		\$ 9,653.30

RAINFALL RETURNS, DOMINICA, 1949.

[31]

Station	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
1. Botanic Gardens L.	2.06	6.44	2.73	1.46	2.53	13.02	11.41	9.69	12.75	9.32	2.63	5.81	79.95
2. Bath Estate L.	2.46	7.39	3.77	1.50	2.52	12.56	13.08	8.87	11.16	10.13	2.59	5.43	81.46
3. Blenheim Works W.	2.20	6.42	6.00	2.44	5.99	12.70	15.65	9.25	13.16	15.67	5.53	7.71	102.77
4. Blenheim House W.	5.19	4.75	6.29	1.00	3.77	10.08	13.79	7.29	14.62	13.92	6.43	5.04	92.22
5. Canefield L.	1.47	7.92	4.71	1.10	3.34	13.02	13.26	9.74	11.87	7.92	2.76	5.35	82.46
6. Clark Hall Estate L.	2.85	11.28	5.00	2.66	3.95	15.56	12.46	13.66	16.62	4.40	4.70	8.20	101.34
7. Colihaut Agric.													
8. Station L.	2.49	7.01	2.62	1.32	.72	7.86	6.64	7.09	7.25	7.35	1.51	4.27	56.13
8. Experiment L.													
9. Station L.	3.25	8.25	4.44	2.20	3.63	14.97	12.08	10.81	14.65	8.50	3.83	7.43	94.09
9. Grand Bay Agric. W.													
10. Station W.	4.98	9.97	4.96	4.53	4.38	15.65	11.26	6.71	18.75	11.47	9.87	10.65	113.18
10. La Plaine Agric.													
11. Station W.	3.32	7.80	6.10	2.93	3.52	11.08	14.14	8.83	21.73	15.33	8.03	6.56	109.37
11. Londonderry Agri.													
12. Station W.	3.19	4.92	6.64	2.40	3.74	11.04	12.55	6.28	24.37	10.53	9.90	7.64	103.20
12. Picard L.	4.84	9.12	11.44	3.07	1.79	17.89	9.58	3.82	14.06	7.91	5.55	8.49	97.56
13. Portsmouth Agric.													
14. Station L.	6.51	6.74	6.66	2.27	4.66	18.90	14.04	8.82	12.67	11.36	5.55	10.10	108.28
14. Pointe Mulatre W.	8.68	7.64	3.46	3.14	4.46	11.81	11.04	8.91	20.84	14.51	12.49	6.21	113.19
15. Riversdale L.	10.13	15.09	13.37	6.87	13.45	15.92	18.65	9.58	24.61	20.08	11.71	17.64	177.10
16. Ridgefield I.	6.14	11.02	6.63	3.72	7.58	17.13	13.29	10.97	18.29	11.89	7.71	10.99	125.36
17. Stowe W.	6.42	10.27	5.76	4.40	4.92	13.34	12.17	6.82	17.88	12.27	9.60	8.64	112.49
18. Sylvania I.	7.60	16.90	8.60	3.50	7.60	24.30	28.00	20.30	32.30	18.00	6.90	13.40	187.40
19. Shawford I.	8.55	42.13	10.54	8.73	10.32	29.98	32.62	14.47	25.32	12.71	11.72	8.57	215.66
20. Gomier Estate I.	5.46	10.99	6.60	3.87	9.37	15.56	11.62	10.85	18.27	15.05	7.62	9.72	124.98

Mean Rainfall 20 Stations .. 113.91
 " " 8 Leeward Stations .. 87.66
 " " 7 Windward Stations .. 106.63
 " " 5 Inland Stations .. 166.10

RAINFALL AT THE BOTANIC GARDENS, DOMINICA, 1930—1949.

	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	Monthly Mean Rainfall
January ..	10.65	1.47	5.47	7.30	4.81	2.37	3.46	13.24	6.73	4.13	1.67	5.00	4.16	5.70	4.24	1.76	6.12	9.23	5.95	2.06	5.27
February ..	2.07	1.05	1.57	2.13	1.70	1.59	2.50	3.40	1.43	2.84	1.45	.47	2.25	1.01	6.89	9.14	5.80	2.07	4.54	6.44	3.02
March ..	3.89	.59	1.56	2.37	3.36	6.90	.82	1.34	2.69	4.38	2.16	2.05	.97	5.46	1.89	1.29	1.47	2.75	1.48	2.73	2.51
April ..	5.01	.51	2.33	2.03	2.91	1.45	3.04	2.61	.72	5.62	1.00	2.82	7.14	3.34	1.65	1.11	2.88	2.61	2.11	1.46	2.62
May ..	2.21	1.70	5.07	2.26	3.82	4.27	2.34	1.48	1.41	.86	1.34	5.53	4.86	3.20	8.55	1.95	3.18	5.53	4.60	2.58	3.34
June ..	7.32	9.98	10.72	7.05	2.59	5.04	6.47	6.57	19.56	4.90	4.65	5.39	9.18	6.25	7.20	6.21	7.04	4.67	6.12	13.02	7.49
July ..	7.90	18.45	8.05	12.30	9.54	13.47	18.48	5.60	13.44	7.18	7.97	13.94	13.86	6.10	12.98	11.17	6.15	11.73	12.84	11.41	11.13
August ..	6.76	17.44	7.23	7.94	7.61	8.87	10.38	6.20	27.92	6.96	6.96	7.52	11.13	10.93	9.19	9.05	9.44	5.73	8.41	9.69	9.77
September ..	14.66	13.51	6.13	11.51	4.08	12.93	11.14	4.40	10.77	6.52	2.55	10.62	11.76	7.99	5.74	15.43	8.34	8.09	8.67	12.75	9.38
October ..	3.15	9.71	6.72	9.26	3.89	5.43	7.65	3.74	4.48	15.42	9.00	6.98	5.91	9.69	6.39	10.90	4.40	4.02	8.40	9.32	7.22
November ..	5.51	11.90	13.83	11.04	5.58	3.39	12.14	20.85	12.34	5.91	10.97	12.45	24.82	5.33	9.59	2.98	13.91	7.10	9.37	2.68	10.08
December ..	3.66	7.56	5.21	7.03	9.46	6.24	10.84	5.43	6.14	3.57	9.96	4.81	8.47	6.60	6.81	4.33	4.34	8.67	6.97	5.81	6.59
Totals ..	72.79	93.87	73.89	82.22	59.35	71.95	89.26	74.86	107.63	68.29	59.68	77.58	104.51	71.65	81.12	75.32	73.07	72.20	79.46	79.95	

AVERAGE RAINFALL (1930-1949) — 78.42 inches.

APPENDIX VI.
METEOROLOGICAL SUMMARY BOTANIC GARDENS, DOMINICA, 1949

[33]

YEAR 1949	PRESSURE				TEMPERATURE								Relative Humidity	Rainfall	
	Corrected & reduced to 32°F., M.S.L.														
	Highest	Lowest	Means		Absolute		Mean Values				Means				
			IN	IN	9 a.m.	3 p.m.	Max.	Min.	Max.	Min.	Dry Bulb	Wet Bulbs	9 a.m.	3 p.m.	
															°F
January ..	30.08	29.79	29.99	29.90	85	65	82	67	74	81	67	72	80	58	2.06
February ..	30.08	29.91	30.03	29.96	84	66	80	68	75	79	62	71	76	63	6.44
March ..	30.08	29.83	30.01	29.91	88	67	84	68	76	81	72	72	78	60	2.73
April ..	30.09	29.87	30.02	29.96	90	68	86	70	80	85	73	73	69	53	1.46
May ..	30.03	29.87	29.98	29.94	91	69	89	72	82	87	74	75	66	53	2.58
June ..	30.09	29.90	29.98	29.94	90	70	89	73	82	85	76	78	74	69	13.02
July ..	30.05	29.83	29.83	29.94	89	70	85	73	80	85	75	77	77	63	11.41
August ..	30.00	29.82	29.78	29.89	91	71	88	73	82	86	74	78	76	65	9.69
September ..	30.03	29.75	29.93	29.86	90	72	89	73	82	86	79	81	86	77	12.75
October ..	30.00	29.80	29.91	29.86	90	71	88	74	82	85	77	79	77	73	9.32
November ..	30.00	29.80	29.92	29.86	89	69	90	71	80	85	76	76	79	62	2.68
December ..	29.96	29.73	29.91	29.83	87	66	85	70	78	83	73	75	78	64	5.81
Year ..	30.04	29.83	29.94	29.90	89	69	86	71	79	84	73	76	76	63	6.66
Average ..															

Highest Barometer Reading ..30.09 ins. on 7th April and 24th June.
 Lowest " " .. 29.73 ins. on 19th December.
 Highest Maximum Temperature .. 91°F on 27th May, 18th and 19th August.
 Lowest " " .. 65°F on 10th and 17th January.
 Greatest Rainfall in 24 hours .. 3.32 ins. on 22nd July.

